

0108-354 US-1
Amendment dated 08/03/2007

AMENDMENT WITH RCE

03100199aa
Reply to office action mailed 04/03/2007

REMARKS

Claims 1-15 are currently pending in the application. By this amendment, claims 1 and 15 are amended for the Examiner's consideration. The foregoing separate sheets marked as "Listing of Claims" show all the claims in the application, with an indication of the current status of each .

The Examiner has objected to claim 15 because it is unclear whether "signal" refers to a signal from the signaling arrangement or a signal from command transmission. The foregoing amendment overcomes the objection.

The Examiner has rejected claims 1-7 and 9 under 35 U.S.C. §102(b) as being anticipated by European Patent Application 0 141 640 A1 to Brown. Brown discloses an optical switch 46, 47 which serves for detecting the unlatching of plunger 18 from socket 34. While the Examiner has correctly cited page 4, lines 29-34 in this regard, the Examiner has not considered the next sentence on page 4, lines 34-37, which discloses that the detection of unlatching is used "to adjust the solenoid current as described more fully below and thereby prolong battery life."

As will be understood from Fig. 2 of Brown, the detection of unlatching (i.e. switching of opto-switch 46, 47) is used to reduce the current through the solenoid from a current sufficient for pulling the plunger out of the socket to a lower current which is just sufficient to hold the plunger in a lifted position. After a predetermined period the current is switched off so that the plunger may then again latch the artificial joint in the extended position. The Examiner argues that the Brown mechanism discloses the signaling arrangement claimed for the present invention.

However, it will be observed that the detection mechanism described in Brown serves as a signal to control the plunger. By contrast, the signaling arrangement of the present invention has a different meaning and function entirely. As described at page 1, lines 35-39, a problem with the prior art is the risk that the knee joint may buckle if the patient fails to notice that the locked position has not been reached when a load is placed on the orthotic knee joint. Consequently, "the

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signaling arrangement” of the present invention is such as to provide notice to the patient, as described at page 2, lines 27-36, and page 3, lines 3-22. No such notice is disclosed in Brown. Therefore, Brown fails to disclose an indicator signal or warning signal to the user of the orthopedic aid characterizing the locking state (i.e. the latched state) or the unlocking (i.e. unlatching) of the locking device. The claims were amended in response to the prior office action to clarify this distinction.

The Examiner responds to the foregoing argument by asserting that the Brown device “allows the user to visually see whether the device is latched or unlatched”. This is either not understood, or is incorrect. If the “Brown device” to which the Examiner refers is the orthopedic aid itself, then Brown suffers from the same deficiencies of the other prior art in terms of the risk that the patient will fail to notice that the locked position has not been reached. Alternatively, if the Examiner is referring to “signaling arrangement (46)”, it must be observed that part 46 of Figure 1 of Brown is certainly not a signaling arrangement but is the light emitting diode which works together with the phototransistor 47 for detecting the locking state. Therefore, light-emitting diode 46 and phototransistor 47 form an optical switch (cf. Page 5, line 13), the output signal of which is not used for a signal alerting the user of the orthopedic device, but instead used for controlling the current out of battery 43 through the solenoid 40.

There is no indication in Brown that the signal from light-emitting diode 46 is visible to the user. Brown teaches only that light-emitting diode 46 is sensed by phototransistor 47, except when the light path between diode 46 and sensor 47 is interrupted by blade 48, which causes the output of optical switch 46,47 to fall (Brown, page 6, line 1), thereby controlling the current out of battery 43 through the solenoid 40.

By contrast, the signaling arrangement of the present invention has to be such that the user is warned by the signal produced for the locked or unlocked state. Therefore, the signal produced by the signaling arrangement has to be sensed by the user, which means that the signaling arrangement has to be arranged in a such a way

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that the user is able to sense the warning signal. This has to be performed immediately when the locked or unlocked state has been reached.

Since the Examiner has not identified operable mechanisms in Brown that alert the user to the status of the locking state, it is requested that the Examiner reconsider this issue and withdraw this ground of rejection. An interview with the Examiner is requested in order to discuss this matter.

The Examiner has rejected claims 8 and 11-15 under 35 U.S.C. §103(a) as being unpatentable over Brown in view of U.S. Patent No. 6,184,797 to Stark et al. (“Stark”). Since claims 8 and 11-15 depend from claim 1, the foregoing argument showing that Brown fails to disclose the signaling limitation of claim 1 also applies to these dependent claims. Stark discloses a system for monitoring the parameters of orthopedic restraining devices such as casts or braces, without an indication of relevance to locking of an artificial joint. Consequently, no signal for a lock state (i.e. latched state) or the unlocking of the joint is produced, and therefore Stark fails to provide the disclosure missing from Brown with respect to claim 1.

The Examiner has rejected claim 10 under 35 U.S.C. §103(a) as being unpatentable over Brown in view of U.S. Patent Publication No. 2002/0183673 to Naft et al. (“Naft”). Since claim 10 also depends from claim 1, the foregoing argument showing that Brown fails to disclose the signaling limitation of claim 1 also applies to claim 10. Naft discloses a lockable orthotic joint where a number of signals are produced by sensors, but no signal for the locking state or the unlocked state is produced, and therefore Naft fails to provide the disclosure missing from Brown with respect to claim 1.

Please note that the use of an orthopedic aid of the present invention is not during any walking gait, but instead for initiating walking (locked state) and sitting (unlocked state), for example. Therefore, there is a user initiated switching between the locked state and the unlocked state. For the locked state the user will walk with a stiff leg if the joint of the present invention is a knee joint. If after walking the user would like to sit down, it would be highly inconvenient to maintain the latched

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position of the knee joint which would cause the user to sit with a stiff leg.

Therefore, the knee joint is then unlocked so that the user may sit down with the normal bent knee joint. After standing up and before restarting walking the user has to bring the joint into an extended position so as to block the joint (under the force of gravity or a corresponding spring). The user will then start walking again.

The present invention starts from the idea to give the user a signal confirming the locking state of the joint so that he can be sure that the joint is in the locked state when he starts loading the joint with his weight.

From the above explanations it should be clear there is no way of combining Stark with Brown. Stark aims the control of the locking and unlocking during each walking gait by using corresponding weight sensors. Stark is concerned with a completely different technology where no signal is needed or even useful for confirming the locked or unlocked state of the joint.

Therefore, in view of the above, no combination of the Brown, Stark and Naft disclosures would make obvious to one skilled in the art to provide an orthopedic aid with an indicator signal or warning signal for the locking state or upon unlocking of the locking device, as claimed by the present invention.

The Examiner maintains a non-statutory double patenting rejection of claims 1-5, 7, and 11-15 based upon another application of the applicant (published as U.S. Patent Publication No. 2005/0039762 and now issued as U.S. Patent No. 7,172,567). However, the '567 patent deals with a command signal, e.g. for unlocking a latched joint. This signal may be transmitted wirelessly from the hand grip of the walking aid if the hand grip is provided with a corresponding signal transmitter. The unlocking of a latched joint may be initiated by the command signal. This is what is claimed by the granted patent.

According to the present invention it may be detected if the unlocking of the joint initiated by the command signal has successfully been completed. For this there is a detection means, as the claims have been amended to make explicit. If the unlocking has been completed there may be a corresponding signal for the user of the

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orthopedic aid. However, it is more likely according to the present invention to detect the locking state, so that the joint may be loaded with the weight of the user's body during walking.

There is no enabling expression in the '567 patent of the functionality disclosed in the present invention, namely, alerting the user. Note that in claims 6, 7, 9 and 10 of the '567 there is no reference to a user. Further, it will be observed that the independent claim of the present invention makes no reliance upon or limitation of the means which may be taken by the user to lock or unlock the orthopedic aid or respond to the notice provided. By contrast, the independent claim of the '567 patent contains as a limitation a control unit that electromechanically actuates the locking device to the locked or the unlocked position. The circumstance of reliance upon this electromechanical mechanism means that any visual display, acoustic signal or vibration (as described in claims 6, 7, 9 and 10) will simply confirm the control objective (locking or unlocking) already initiated at the actuating unit. By contrast, the disclosure of the present invention describes a need to alert a user, e.g. to failure of the orthotic joint to reach the locked position (page 1, lines 35-36). Neither this disclosure nor the corresponding claim limitation are present in the '567 patent.

Thus, it is respectfully submitted that neither of the Examiner's assertions in support of a double patenting rejection is correct: the subject matter claimed in the instant application is not fully disclosed in the copending application (now the '567 patent), and the present claims would not be properly presentable and supported in the copending application (now the '567 patent). Furthermore, in response to the Examiner's comments, the claims in the two applications do not include the same structural elements, as indicated above.

In view of the foregoing, it is requested that the application be reconsidered, that claims 1-15 be allowed, and that the application be passed to issue.

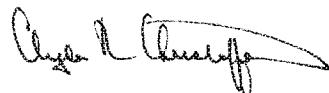
Should the Examiner find the application to be other than in condition for allowance, the Examiner is requested to contact the undersigned at 703-787-9400

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(fax: 703-787-7557; email: clyde@wcc-ip.com) to discuss any other changes deemed necessary in a telephonic or personal interview.

If a further extension of time is required for this response to be considered as being timely filed, a conditional petition is hereby made for such extension of time. Please charge any deficiencies in fees and credit any overpayment of fees to Attorney's Deposit Account No. 50-2041.

Sincerely,



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